CITY OF WALTHAM
CONTRIBUTORY RETIREMENT SYSTEM

Actuarial Valuation Report

January 1, 2008

TABLE OF CONTENTS

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Report Summary:

Highlights	January 1, 2007	January 1, 2008
Contributions		
Funding Schedule FY 2009	$13,192,164	$13,192,164
Funding Schedule FY 2010	13,282,511	13,752,867
Funded Ratios		
GASB No. 25	59.6%	64.4%
Participants		
Actives	938	884
Retirees and Beneficiaries	666	655
Inactives	108	133
Disabled	114	114
Total	1,826	1,786
Payroll		
Payroll of Active Members	$45,637,031	$45,141,147
Average Payroll	48,654	51,065
Normal Cost		
Employer	$1,997,905	$2,102,534
Employee	3,743,356	3,758,951
Administrative Expenses	420,000	500,000
Total	$6,161,261	$6,361,485
Actuarial Accrued Liabilities		
Actives	$102,168,571	$102,694,689
Retirees, Beneficiaries, Disabilities and Inactives	141,415,823	148,659,199
Total	$244,840,890	$251,353,888
Actuarial Value of Assets	$146,043,051	$161,934,253
Unfunded Actuarial Accrued Liabilities	$98,797,839	$89,419,635

Introduction

This report presents the findings of an actuarial valuation as of January 1, 2008, of Waltham Contributory Retirement System.

The actuarial valuation is based on:

- Provisions Chapter 32 of the Massachusetts General Laws, "M.G.L", as of January 1, 2008.
- Employee data provided by the Retirement Board
- Asset information reported to the Public Employee Retirement Administration Commission by the City of Waltham Contributory Retirement System
- Actuarial assumptions approved by the Retirement Board

The valuation and appropriation forecast are prepared in accordance with Chapter 32 of the M.G.L. as of January 1, 2008.

The valuation and forecast do not account for:

- Any subsequent changes in the law
- Chapter 32 of the M.G.L., Section 3(8)(c) transfers between systems
- State-mandated benefits
- Cost-of-living increases granted to retired members between 1982 and 1997. The cost of these benefits has been assumed by the State under Proposition Two and One-Half.

Actuarial Experience

In performing the actuarial valuation, various assumptions are made regarding such factors as mortality, retirement, disability, and withdrawal rates as well as both payroll, salary increases, and investment returns. A comparison of the current valuation and the prior valuation is made to determine how closely actual experience corresponded to anticipated occurrences. This analysis of the system provides insight into the overall quality of the actuarial assumptions and helps explain any change in the annual appropriation.

During the last year, the total unfunded actuarial accrued liability decreased by 9.5% to $89,419,635. Most of the decrease is the result of net favorable actuarial experience during the preceding year, resulting in an actuarial gain of $7,206,290. The sources of the (gain)/loss are as follows:

Investment	(4,931,928)
Salary	976,616
Retiree Mortality	(550,481)
Active Decrements (Retirement)	(2,855,861)
Active Decrements (Termination)	(201,214)
Active Decrements (Mortality)	(74,957)
Active Decrements (Disability)	776,255
New Entrants	41,232
Other (Data corrections, Section 3(8)(c), etc.)	(105,819)
Total (gain)/loss	(7,206,290)

Actuarial Costs and Liabilities:

Normal Costs

The normal cost is the sum of the individual normal costs determined for each member as if the assumptions underlying the cost determinations had been exactly realized. An individual normal cost represents that part of the cost of a member's future benefits which are assigned to the current year as if the costs are to remain level as a percentage of the member's pay. Benefits payable under all circumstances (i.e., retirement, death, disability, and terminations) are included in this calculation. Anticipated employee contributions to be made during the year are subtracted from the total normal cost to determine employer normal cost. The total normal cost is divided by total payroll to determine the normal cost as a percent of pay. The normal cost is shown in Table I.

Table I

	January 1, 2007	January 1, 2008
Superannuation	$3,784,895	$3,886,953
Termination	663,353	644,072
Death	284,070	285,237
Disability	1,008,943	1,045,223
Administrative Expenses	$420,000	$500,000
Total Normal Cost	$6,161,261	$6,361,485
% of Pay	13.5%	14.1%
Employee Contributions	$3,743,356	$3,758,951
% of Pay	8.2%	8.3%
Employer Normal Cost	$2,417,905	$2,602,534
% of Pay	5.3%	5.8%

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Present Value of Actuarial Accrued Liabilities

The actuarial accrued liabilities (AAL) represents today's value of all benefits based on the past service of the actives and inactives. The AAL can be compared to the assets to determine the funded status of the Plan. The value of these earned benefits is shown in Table II below.

Table II

	January 1, 2007	January 1, 2008
Actives		
Superannuations	$93,572,436	$93,622,524
Termination	(2,319,507)	(2,214,507)
Death	3,409,678	3,399,837
Disability	7,505,964	7,886,835
Retirees and Inactives		
Retirees and Beneficiaries	$114,646,169	$118,084,418
Terminated (Refund)	1,256,496	1,478,844
Disabled	26,769,654	29,095,937
Total	$244,840,890	$251,353,888

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Present Value of Future Benefits

The present value of future benefits represents today's value of all benefits earned by the inactive participants as well as all benefits earned and expected to be earned in the coming years by the active participants. The difference between the present value of future benefits and the present value of actuarial accrued liabilities is the value of benefits to be earned in the coming years. The value of the total expected benefits is shown in Table III.

Table III

	January 1, 2007	January 1, 2008
Actives		
Superannuation	$125,431,317	$125,615,377
Termination	3,298,244	3,129,411
Death	5,780,109	5,741,637
Disability	17,032,623	17,659,895
Retirees and Inactives		
Retirees and Beneficiaries	$114,646,169	$118,084,418
Terminated (Refund)	1,256,496	$1,478,844
Disabled	26,769,654	29,095,937
Total	$294,214,612	$300,805,519

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Funded Status and Appropriations:

Market Value of Plan Assets

The trust fund composition on a market value basis is shown in Table IV.

Table IV

	January 1, 2007	January 1, 2008
Cash equivalents	$2,168,797	$10,831,039
Fixed income securities	37,525,547	32,040,110
Equities	59,113,263	56,047,995
International	28,207,412	31,066,130
Real Estate	8,837,550	15,450,867
PRIT Fund	19,865,837	22,741,883
Accounts receivable	94,557	97,307
Accounts payable	(275,529)	(278,016)
Accrued income	8,492	43,689
Total Market Value	$155,545,927	$168,041,004
Total Actuarial Value	$146,043,051	$161,934,253

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Actuarial Value of Assets

The actuarial value of assets is determined by projecting the market value of assets as of the beginning of the prior plan year using the assumed rate of return during that year (8.5%) and accounting for deposits and disbursements with interest at the assumed rate of return. An adjustment is then applied to recognize the difference between the actual investment return and expected return over a five-year period. This preliminary actuarial value is not allowed to differ from the market value of assets by more than 20%. The calculation of the actuarial value of assets as of January 1, 2008 is presented in Table V.

Table V

		January 1, 2008
(1)	Market value at January 1, 2007	$155,545,927
(2)	2007 Contributions and Receipts	$18,056,910
(3)	2007 Benefit Payments and Expenses	($19,452,004)
(4)	Net interest adjustment at 8.5% on (1), (2), and (3) to December 31, 2007	$12,384,383
(5)	Expected market value on January 1, 2008 (1) + (2) + (3) + (4)	$166,535,216
(6)	Actual market value on January 1, 2008	$168,041,004
(7)	2007 (Gain) / Loss	($1,505,788)
(8)	80% of 2007 (Gain) / Loss	($1,204,630)
(9)	2006 (Gain) / Loss	($7,360,869)
(10)	60% of 2006 (Gain) / Loss	($4,416,521)
(11)	2005 (Gain) / Loss	$723,945
(12)	40% of 2005 (Gain) / Loss	$289,578
(13)	2004 (Gain) / Loss	($3,875,892)
(14)	20% of 2004 (Gain) / Loss	($775,178)
(15)	Actuarial value on January 1, 2008, (6) + (8) + (10) + (12) + (14)	$161,934,253
(16)	but not less than 80% nor greater than 120% of (6)	$161,934,253
	Ratio of actuarial value to market value	96.37%
	2007 Actuarial Value Return	11.89%
	2007 Market Value Return	9.53%

Unfunded Actuarial Accrued Liabilities

Under the Entry Age Normal Actuarial Cost Method, the Actuarial Accrued Liability represents what the accumulated assets would have been as of the valuation date if:

- current plan provisions and assumptions had always been in effect,
- experience conformed exactly to assumptions, and
- the normal cost had been contributed each year since inception.

The actuarial value of the Fund's assets as of the end of the prior year are subtracted from the Actuarial Accrued Liability (AAL) to determine the Unfunded Actuarial Accrued Liability (UAAL) as of the valuation date. Over time, annual pension contributions will accumulate Plan assets equal to the AAL, and the UAAL will be eliminated. Thereafter, annual contributions equal to the normal cost will keep the Plan's assets and liabilities in balance. The UAAL is developed in Table VI.

Table VI

	January 1, 2007	January 1, 2008
Actuarial Accrued Liability	$244,840,890	$251,353,888
Actuarial Assets	146,043,051	161,934,253
Unfunded Actuarial Accrued Liability	$98,797,839	$89,419,635
Funded Status	59.6%	64.4%

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Appropriations

The pension appropriation for the upcoming fiscal years have been calculated in accordance with the requirements set forth in Section 22D of Chapter 32 of the Massachusetts General Laws. These amounts were calculated to comply with the June 30, 2028, full funding mandate for all accrued liabilities. The pension appropriation is the sum of the:

- Employer normal cost,
- Increasing amortization of the prior unfunded actuarial accrued liability by June 30, 2019
  $ 88,335,030 over 11 years with 2.5% increasing payments
- Increasing amortization of the 2002 Early Retirement Incentive by June 30, 2027
  $ 8,290,895 over 19 years with 4.5% increasing payments
- Increasing amortization of the current (gains)/losses by June 30, 2019
  $ -7,206,290 over 11 years with 2.5% increasing payments
- Interest adjustment for payments deposited at the beginning of the fiscal year.

The pension appropriation is shown in Table VII.

Table VII

	January 1, 2007	January 1, 2008
Normal cost	$2,417,905	$2,602,534
Amortization payment of the prior accrued liability	12,712,846	10,501,839
Amortization payment of ERI liability	593,046	599,123
Amortization payment of current (gains)/losses	(3,431,505)	(856,730)
Total cost	$12,292,292	$12,846,766
% of Pay	26.9%	28.5%
Fiscal 2009 cost	$13,192,164	$13,192,164
Fiscal 2010 cost	$13,282,511	$13,752,867

Appropriation Forecast

The following exhibit forecasts employer and employee contributions over the next 32 years under the adopted funding schedule.

Note that the forecast is based upon an "open group" method. This method assumes that sufficient employees will be hired each year to keep the number constant. The total payroll of the system is expected to increase 4.5% per year. The employee contribution rate is expected to increase to 10.5% by 2028 as members contributing base percentages 5%, 7%, and 8% are replaced by new members, whose base contribution is 9%. Payments are assumed to be made at the beginning of the year.

The employer total cost is expected to increase during the next 19 years until the unfunded liabilities are completely paid off, at which time only the normal cost will remain. The total cost represents 29.2% of payroll, decreasing to 24.6% by the time the unfunded liabilities are fully paid off, leaving only a normal cost of 3.7% thereafter. The decrease in the cost as a percentage of payroll is a result of the increase in member deductions.

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Appropriation Forecast

Fiscal Year Ending	Payroll*	Employee Contribution	Employer Normal Cost with Interest	Amortization Payments with Interest	Employer Total Cost with Interest	Employer Total Cost % of Payroll	Funded Ratio %**
2009	$45,141,147	$3,758,951	$2,710,886	$10,481,278	$13,192,164	29.2	64.3
2010	$47,172,499	$3,982,052	$2,776,682	$10,976,185	$13,752,867	29.2	66.8
2011	$49,295,261	$4,217,619	$2,842,910	$11,263,632	$14,106,542	28.6	69.5
2012	$51,513,548	$4,466,325	$2,909,476	$11,558,853	$14,468,329	28.1	72.2
2013	$53,831,657	$4,728,873	$2,976,276	$11,862,067	$14,838,343	27.6	75.0
2014	$56,254,082	$5,006,006	$3,043,196	$12,173,503	$15,216,699	27.0	78.0
2015	$58,785,516	$5,298,505	$3,110,112	$12,493,395	$15,603,507	26.5	81.1
2016	$61,430,864	$5,607,192	$3,176,888	$12,821,984	$15,998,872	26.0	84.2
2017	$64,195,253	$5,932,931	$3,243,376	$13,159,519	$16,402,895	25.6	87.6
2018	$67,084,039	$6,276,632	$3,309,415	$13,506,256	$16,815,671	25.1	91.0
2019	$70,102,821	$6,639,252	$3,374,829	$13,862,461	$17,237,290	24.6	94.5
2020	$73,257,448	$7,021,798	$3,439,429	$1,012,768	$4,452,197	6.1	98.2
2021	$76,554,033	$7,425,328	$3,503,009	$1,058,343	$4,561,352	6.0	98.4
2022	$79,998,965	$7,850,957	$3,565,347	$1,105,968	$4,671,315	5.8	98.6
2023	$83,598,918	$8,299,856	$3,626,201	$1,155,737	$4,781,938	5.7	98.8
2024	$87,360,869	$8,773,258	$3,685,312	$1,207,745	$4,893,057	5.6	99.0
2025	$91,292,108	$9,272,459	$3,742,400	$1,262,093	$5,004,493	5.5	99.2
2026	$95,400,253	$9,798,822	$3,797,163	$1,318,887	$5,116,050	5.4	99.5
2027	$99,693,265	$10,353,781	$3,849,277	$1,378,237	$5,227,514	5.2	99.7
2028	$104,179,462	$10,938,843	$3,898,391	$0	$3,898,391	3.7	100.0
2029	$108,867,537	$11,431,091	$4,073,819	$0	$4,073,819	3.7	100.0
2030	$113,766,576	$11,945,491	$4,257,141	$0	$4,257,141	3.7	100.0
2031	$118,886,072	$12,483,038	$4,448,712	$0	$4,448,712	3.7	100.0
2032	$124,235,946	$13,044,774	$4,648,904	$0	$4,648,904	3.7	100.0
2033	$129,826,563	$13,631,789	$4,858,105	$0	$4,858,105	3.7	100.0
2034	$135,668,759	$14,245,220	$5,076,719	$0	$5,076,719	3.7	100.0
2035	$141,773,853	$14,886,255	$5,305,172	$0	$5,305,172	3.7	100.0
2036	$148,153,676	$15,556,136	$5,543,904	$0	$5,543,904	3.7	100.0
2037	$154,820,592	$16,256,162	$5,793,380	$0	$5,793,380	3.7	100.0
2038	$161,787,518	$16,987,689	$6,054,082	$0	$6,054,082	3.7	100.0
2039	$169,067,956	$17,752,135	$6,326,516	$0	$6,326,516	3.7	100.0
2040	$176,676,015	$18,550,982	$6,611,209	$0	$6,611,209	3.7	100.0

* Calendar basis

** Beginning of Fiscal Year

GASB Statements No. 25 and No. 27

Effective for periods beginning after June 15, 1997, the Governmental Accounting Standards Board (GASB) requires the disclosure of pension related liabilities for public employer financial statements in accordance with Statements 25 and 27. These statements, which replace GASB Statement No. 5, must be adhered to by any public employee retirement system that follows Generally Accepted Accounting Principles (GAAP).

These disclosures are intended to establish a reporting framework that distinguishes between:

- current financial information about plan assets and financial activities,
- actuarially determined information from a long-term perspective,
- the funded status of the plan, and
- progress being made in accumulating sufficient assets to pay benefits when due.

Footnote disclosures required by GASB Statement No. 25 and 27 include a description of the plan, a summary of significant accounting policies, and information about contributions, legally required reserves, and investment concentrations. As a result of the oversight of the Public Employees Retirement Administration Commission (PERAC) and the conversion of unpaid contributions to pension related debt, the Net Pension Obligation (NPO) as required by Statement No. 27 will effectively always be equal to $0.

The required disclosure information is shown in Table VIII.

Table VIII

		January 1, 2007	January 1, 2008
(1)	Actuarial Accrued Liability	$244,840,890	$251,353,888
(2)	Actuarial Value of Assets	146,043,051	161,934,253
(3)	Unfunded Actuarial Accrued Liability	98,797,839	89,419,635
(4)	Funded Ratio (2)/(1)	59.6%	64.4%
(5)	Covered Payroll	$45,637,031	$45,141,147
(6)	UAAL as a percentage of payroll: (3)/(5)	216.5%	198.1%
(7)	Annual Required Contribution (ARC)	$12,695,230	$13,192,164
(8)	Net Pension Obligation	$0	$0

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PERAC Annual Statement
APPENDIX PAGE 3
ACTUARIAL VALUATION AND ASSUMPTIONS

The most recent actuarial valuation of the System was prepared by Buck Consultants as of January 1, 2008.

The normal cost for employees on that date was:	$3,758,951	8.3% of pay
The normal cost for the employer was:	2,102,534	4.7% of pay

The actuarial liability for active members was:	$102,694,689
The actuarial liability for retired and inactive members was:	148,659,199
Total actuarial accrued liability:	251,353,888
System assets as of that date:	161,934,253
Unfunded actuarial accrued liability:	$89,419,635

The ratio of system's assets to total actuarial liability was 64.4%

The principal actuarial assumptions used in the valuation are as follows:

Investment Return:	8.50%
Rate of Salary Increase:	4.00% (2008-2011)
	5.00% thereafter

SCHEDULE OF FUNDING PROGRESS

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (b)	Unfunded Actuarial Accrued Liability (b-a)	Funded Ratio (a/b)	Covered Payroll (c)	UAAL as a percent of Covered Payroll (b-a)/c
01/01/08	$161,934,253	$251,353,888	$89,419,635	64.4%	$45,141,147	198.1%
01/01/06	$136,645,912	$267,164,850	$130,518,938	51.1%	$43,804,722	298.0%
01/01/05	132,657,305	252,142,463	119,485,158	52.6%	42,282,485	282.6%
01/01/04	132,381,882	241,741,616	109,359,734	54.8%	40,324,076	271.2%
01/01/03	123,352,105	232,487,351	109,135,246	53.1%	38,317,908	284.8%
01/01/01	123,997,853	196,626,146	72,628,293	63.1%	38,264,636	189.8%
01/01/00	127,180,392	183,662,873	56,482,481	69.2%	35,476,982	159.2%
01/01/99	117,993,132	169,918,311	51,925,179	69.4%	31,775,381	163.4%

Attach Copy of Current Approved Funding Schedule

EXHIBITS

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Age/Service Distribution with Salary as of January 1, 2008

Attained Age	Average Salary <5	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	Total
< 20	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0
20-24	8	0	0	0	0	0	0	0	0	8
	33,335	0	0	0	0	0	0	0	0	33,335
25-29	36	9	0	0	0	0	0	0	0	45
	41,689	48,345	0	0	0	0	0	0	0	43,020
30-34	27	30	4	0	0	0	0	0	0	61
	45,215	55,816	64,866	0	0	0	0	0	0	51,717
35-39	20	34	25	4	0	0	0	0	0	83
	40,372	54,459	57,010	61,441	0	0	0	0	0	52,169
40-44	37	34	41	22	11	0	0	0	0	145
	31,020	42,675	59,554	64,317	57,700	0	0	0	0	48,897
45-49	26	34	35	22	36	1	0	0	0	154
	31,786	39,944	58,882	61,073	66,444	47,510	0	0	0	52,133
50-54	26	32	20	22	35	17	7	0	0	159
	35,843	36,461	40,978	48,120	63,751	73,923	63,752	0	0	49,755
55-59	14	23	11	11	19	25	17	6	1	127
	29,488	39,597	49,650	47,963	52,396	72,827	74,430	70,210	53,082	54,749
60-64	10	11	11	10	10	5	7	7	0	71
	32,627	48,414	43,802	37,094	58,021	71,112	73,204	74,180	0	51,818
65-69	2	4	5	2	5	1	1	1	2	23
	28,340	48,888	71,214	82,688	42,475	45,055	93,674	45,396	54,257	55,595
70+	0	0	3	1	1	0	1	0	2	8
	0	0	67,584	56,315	70,173	0	71,448	0	56,261	64,151
Total Employees	206	211	155	94	117	49	33	14	5	884
Average Salary	36,396	45,383	55,443	55,141	60,823	71,949	72,398	70,423	54,824	51,065

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Retiree Distribution as of January 1, 2008

Attained Age	Number of Employees Male	Female	Total	Total Payments Male	Female	Total
< 20	0	0	0	0	0	0
20-24	0	0	0	0	0	0
25-29	0	0	0	0	0	0
30-34	0	4	4	0	44,207	44,207
35-39	0	0	0	0	0	0
40-44	0	2	2	0	11,702	11,702
45-49	3	4	7	39,887	94,077	133,965
50-54	12	6	18	436,737	77,810	514,548
55-59	29	10	39	1,510,597	226,836	1,737,433
60-64	51	35	86	2,476,329	516,751	2,993,081
65-69	39	33	72	1,465,643	549,387	2,015,030
70-74	59	46	105	1,811,327	644,001	2,455,327
75-79	47	44	91	1,373,327	500,834	1,874,162
80-84	68	78	146	1,818,778	1,019,716	2,838,494
85-89	23	40	63	532,357	411,272	943,629
90-94	9	27	36	157,976	251,588	409,564
95-99	0	4	4	0	37,910	37,910
Total	340	333	673	11,622,959	4,386,091	16,009,050
Average (Age/Payment)	72.4	75.7	74.1	34,185	13,171	23,788
Frequency Percent	50.5	49.5	100.0	72.6	27.4	100.0

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Disabled Retiree Distribution as of January 1, 2008

	Number of Employees			Total Payments		
Attained Age	Male	Female	Total	Male	Female	Total
< 20	0	0	0	0	0	0
20-24	0	0	0	0	0	0
25-29	0	0	0	0	0	0
30-34	0	0	0	0	0	0
35-39	0	0	0	0	0	0
40-44	2	0	2	113,814	0	113,814
45-49	4	0	4	98,425	0	98,425
50-54	5	5	10	311,487	131,551	443,039
55-59	14	0	14	566,677	0	566,677
60-64	18	1	19	1,235,512	4,327	1,239,839
65-69	20	0	20	660,122	0	660,122
70-74	15	0	15	381,090	0	381,090
75-79	16	0	16	459,680	0	459,680
80-84	16	1	17	473,577	24,079	497,656
85-89	2	1	3	49,698	10,494	60,191
90-94	1	0	1	35,858	0	35,858
95-99	0	0	0	0	0	0
Total	113	8	121	4,385,940	170,451	4,556,391
Average (Age/Payment)	68.5	62.4	68.1	38,814	21,306	37,656
Frequency Percent	93.4	6.6	100.0	96.3	3.7	100.0

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EXHIBIT 4 - CASHFLOW FORECAST:

The following is a 30 year forecast of benefit payments net of state reimbursable COLA payments, Contribution Income and Investment Returns.

Plan Year Ending	Benefit Payments	Employee Contributions	Employer Contributions	Investment Returns	Net change in plan assets
2008	$18,620,350	$3,758,951	$13,192,164	$13,496,668	$11,827,433
2009	19,127,792	3,982,052	13,752,867	14,302,562	12,909,688
2010	19,665,049	4,217,619	14,106,542	15,386,783	14,045,895
2011	20,323,934	4,466,325	14,468,329	16,562,825	15,173,545
2012	21,012,303	4,728,873	14,838,343	17,833,810	16,388,723
2013	21,648,976	5,006,006	15,216,699	19,210,571	17,784,301
2014	22,258,132	5,298,505	15,603,507	20,707,451	19,351,331
2015	22,982,286	5,607,192	15,998,872	22,333,105	20,956,882
2016	23,631,532	5,932,931	16,402,895	24,098,729	22,803,023
2017	24,366,731	6,276,632	16,815,671	26,018,093	24,743,666
2018	25,114,791	6,639,252	17,237,290	28,102,292	26,864,043
2019	25,861,413	7,021,798	4,452,197	29,815,551	15,428,133
2020	26,644,045	7,425,328	4,561,352	31,093,585	16,436,220
2021	27,487,526	7,850,957	4,671,315	32,454,902	17,489,648
2022	28,357,709	8,299,856	4,781,938	33,904,792	18,628,876
2023	29,255,441	8,773,258	4,893,057	35,450,526	19,861,400
2024	30,181,592	9,272,459	5,004,493	37,100,013	21,195,373
2025	31,137,062	9,798,822	5,116,050	38,861,854	22,639,665
2026	32,122,780	10,353,781	5,227,514	40,745,406	24,203,921
2027	33,139,704	10,938,843	3,898,391	42,700,882	24,398,412
2028	34,188,820	11,431,091	4,073,819	44,723,872	26,039,962
2029	35,271,149	11,945,491	4,257,141	46,884,688	27,816,171
2030	36,387,742	12,483,038	4,448,712	49,194,718	29,738,726
2031	37,539,683	13,044,774	4,648,904	51,666,338	31,820,333
2032	38,728,091	13,631,789	4,858,105	54,313,008	34,074,810
2033	39,954,122	14,245,220	5,076,719	57,149,356	36,517,173
2034	41,218,965	14,886,255	5,305,172	60,191,285	39,163,746
2035	42,523,850	15,556,136	5,543,904	63,456,084	42,032,274
2036	43,870,044	16,256,162	5,793,380	66,962,548	45,142,045
2037	45,342,482	16,987,689	6,054,082	70,727,625	48,426,914

amounts in thousands

EXHIBIT 5 – SUMMARY OF PLAN PROVISIONS:

This summary is prepared in accordance with Chapter 32 as of January 1, 2008, and does not take into account any subsequent changes.

1. <u>Administration</u>

Each of the 107 contributory retirement systems for public employees of the Commonwealth of Massachusetts are guided by the applicable provisions of Chapter 32 of the Massachusetts General Laws and other applicable statutes. Although these boards operate semi-independently, there is a uniform set of rules governing benefits, eligibility, contributions, financing, and accounting.

2. <u>Participation</u>

Participation is mandatory for all full-time employees whose employment commences prior to age 65. Eligibility with respect to part-time, professional, temporary, or intermittent employment is governed by the local board. Membership is optional for certain elected officials, State officials appointed by the Governor, and certain hospital interns.

There are four classes of membership as follows:

(i) <u>Group 1</u>: Most general employees in State and local government

(ii) <u>Group 2</u>: Certain specified hazardous duty positions

(iii) <u>Group 3</u>: State police officers and inspectors

(iv) <u>Group 4</u>: Local police officers, firefighters, and designated employees of the municipal light department.

For members in more than one group, participation will be proportional.

3. <u>Salary</u>

Salary is defined as gross regular compensation. Salary <u>does not</u> include bonuses, overtime, severance pay, unused sick leave credit, or other similar compensation.

4. <u>Member Contributions</u>

Member contributions vary depending upon date hired as follows:

Date of Hire	**Member Contribution Rate**
Prior to 1975	5.0% of Salary
1975 to 1983	7.0% of Salary
1984 to 1996	8.0% of Salary
1996 and Later plus	9.0% of Salary
1979 and Later	2.0% of Salary in excess of $30,000

5. <u>Average Salary</u>

Average salary is used to determine a participant's benefit. It is defined as the average salary during the three consecutive-year period that produces the highest average. (Alternatively, if a greater amount results, it is the average rate of salary earned during the period or periods, whether or not consecutive, that constitutes the last three years preceding retirement.)

6. <u>Creditable Service</u>

In general, creditable service is awarded during the period in which a member contributes to the retirement system.

7. <u>Service Retirement</u>

a. Eligibility:

For an employee to be eligible for service retirement (also referred to as superannuation), one of the following conditions must be met:

(i) completion of 20 years of service

(ii) for an employee hired prior to January 1, 1978, attainment of age 55 as an active member

(iii) for an employee hired on or after January 1, 1978, attainment of age 55 as an active member and completion of ten years of service

b. Benefit Amount:

The retirement allowance is determined as a product of the participant's Benefit Rate times Average Salary times Creditable Service, where Benefit Rate is determined from the following table:

Age at	Percentage of Average Salary		
Retirement	Group 1	Group 2	Group 4
65 or Over	.025	.025	.025
64	.024	.025	.025
63	.023	.025	.025
62	.022	.025	.025
61	.021	.025	.025
60	.020	.025	.025
59	.019	.024	.025
58	.018	.023	.025
57	.017	.022	.025
56	.016	.021	.025
55	.015	.020	.025
54	.014	.014	.024
53	.013	.013	.023
52	.012	.012	.022
51	.011	.011	.021
50	.010	.010	.020
49	.009	.009	.019
48	.008	.008	.018
47	.007	.007	.017
46	.006	.006	.016
45	.005	.005	.015
44	.004	.004	.004
43	.003	.003	.003
42	.002	.002	.002
41	.001	.001	.001

8. Deferred Vested Retirement

a. Eligibility:

A participant who has completed ten or more years of creditable service is eligible for a deferred vested retirement benefit. If termination is involuntary, the participant is vested after six years.

b. Benefit Amount:

The participant's accrued benefit is payable commencing at age 55, or may be deferred until later at the employee's option.

c. Refund of Contributions:

In lieu of the deferred pension benefit, a member may elect to receive a refund of their accumulated contributions. Members with ten or more years of service are entitled to 100% of the credited interest on their contributions. Members with five to ten years of service are entitled to 50% of the credited interest on their contributions. No credited interest is provided for members with less than five years of service.

9. Accidental Disability

a. Eligibility:

Participants are eligible for an accidental disability benefit, regardless of service or age, if they become permanently and totally incapacitated for further duty as a result of personal injury sustained while in the performance of duties.

b. Benefit Amount:

The accidental disability amount is 72% of annual salary plus $450 per year for each child plus an additional annuity based upon accumulated Member Contributions with credited interest.

10. Ordinary Disability

a. Eligibility:

An ordinary disability occurs when a member becomes permanently and totally disabled due to sickness or injury that is not job related. In order to be eligible for an ordinary disability benefit, a member must have ten years of service (and be less than age 55).

b. Benefit Amount:

The ordinary disability amount is equal to the accrued retirement benefit as if the member were age 55. If the member was a veteran, the benefit is 50% of the member's final rate of Salary during the preceding 12 months, plus an annuity based upon accumulated Member Contributions plus credited interest. If the participant is over age 55, he will receive not less than the superannuation allowance to which he is entitled.

11. Survivor Benefits

a. Occupational Death:

The survivors of a member who dies due to an occupational injury will be entitled to a lump sum return of contributions plus a pension benefit equal to 72% of the participant's annual Salary.

b. Non-Occupational Death:

Upon the death of a member other than due to an occupational injury, the designated beneficiary will be entitled to a retirement benefit as if Option C had been elected with a minimum of $250 per month to the surviving spouse, plus $120 for the first child, plus $90 for each additional child. If no beneficiary is designated and if the employee worked two years, and is married at least one year, the spouse may elect benefits. If there is no designated beneficiary or surviving spouse, then member contributions are returned. If there are dependent children but no surviving spouse, they may elect minimum survivor benefits of $250 per month plus $120 for the first child and $90 for each additional child.

c. Refund of Contributions:

Upon the death of a member not entitled to survivor benefits, the beneficiary is entitled to a refund of all member contributions with interest.

12. Cost-of-Living Increases

In accordance with the adoption of Chapter 17 of the Acts of 1997, the granting of a cost-of-living adjustment will be determined by an annual vote by the Retirement Board. The amount of increase will be based upon the Consumer Price Index, limited to a maximum of 3.0%, beginning on July 1. All retirees, disabled retirees, and beneficiaries who have been receiving benefits payments for at least one year as of July 1 are eligible for the adjustment. The maximum amount of pension benefit subject to a COLA is $12,000. All COLAs granted to members after 1981 and prior to July 1, 1998 are deemed to be an obligation of the State and are not the liability of the Retirement System.

13. Postretirement Death Benefits

Any benefits following the death of a member after retirement are based upon the form of benefit the participant elected at the time of retirement. There are three available forms as follows:

(i) Option A – Life annuity

(ii) Option B – Life annuity with death benefit equal to excess of member contributions plus credited interest to retirement over annuity benefit paid to member

(iii) Option C – Life annuity with 66-2/3% of benefit continued after death of member to designated joint annuitant

EXHIBIT 6 – ACTUARIAL METHODS AND ASSUMPTIONS:

The actuarial cost method, factors, and assumptions used in determining cost estimates are presented below.

1. Member Data

The member data used in the determination of cost estimates consist of pertinent information with respect to the active, inactive, retired, and disabled members of the employer as supplied by the employer to the actuary.

2. Valuation Date

January 1, 2008.

3. Actuarial Cost Method

The costs of the Plan have been determined in accordance with the individual entry age normal actuarial cost method.

4. Rate of Investment Return

It is assumed that the assets of the fund will accumulate at a compound annual rate of 8.5% per annum.

5. Salary Scale

It is assumed that salaries including longevity will increase at a rate of 4% per year.

6. Cost-of-Living Increases

Cost-of-living increases have been assumed to be 3.0% of the lesser of the pension amount and $12,000 per year.

7. Value of Investments

Assets held by the fund are valued at market value as reported by the Public Employees'

Retirement Administration Commission (PERAC). The actuarial value of assets is determined using a five-year smoothing of unrealized gains and losses.

8. Annual Rate of Withdrawal Prior to Retirement

Based on an analysis of experience, the assumed annual rates of withdrawal may best be illustrated by the following rates at the following ages:

Service	General Employees	Police and Fire Employees
0	0.1500	0.0150
10	0.0540	0.0150
20	0.0200	0.0000
30	0.0000	0.0000

9. Annual Rate of Mortality

It is assumed that both pre-retirement and post retirement mortality are represented by the RP-2000 Mortality Table for males and females. Mortality for disabled members is represented by the RP-2000 Mortality Table set forward two years for all disabled members.

10. Service Retirement

Based on an analysis of experience, the assumed annual retirement rates are illustrated at the following ages:

Age	Male General Employees	Female General Employees	Male and Female Police and Fire Employees
50	0.0100	0.0150	0.02000
51	0.0100	0.0150	0.02000
52	0.0100	0.0200	0.02000
53	0.0100	0.0250	0.05000
54	0.0200	0.0250	0.07500
55	0.0200	0.0550	0.15000
56	0.0250	0.0650	0.10000
57	0.0250	0.0650	0.10000
58	0.0500	0.0650	0.10000
59	0.0650	0.0650	0.15000
60	0.1200	0.0500	0.20000
61	0.2000	0.1300	0.20000
62	0.3000	0.1500	0.25000
63	0.2500	0.1250	0.25000
64	0.2200	0.1800	0.30000
65	0.4000	0.1500	1.00000
66	0.2500	0.2000	1.00000
67	0.2500	0.2000	1.00000
68	0.3000	0.2500	1.00000
69	0.3000	0.2000	1.00000
70	1.0000	1.0000	1.00000

11. Annual Rate of Disability Prior to Retirement

Based on an analysis of experience, the assumed annual rates of disability may best be illustrated by the following probabilities at the following ages:

Attained Age	General Employees	Police and Fire Employees
20	0.0001	0.0001
30	0.0003	0.0003
40	0.0010	0.0030
50	0.0019	0.0125

In addition, it is assumed for the general employees that 45% of all disabilities are ordinary (55% are service connected). For police and fire employees, 10% of all disabilities are assumed to be ordinary (90% are service connected).

12. Family Composition

It is assumed that 80% of all members will be survived by a spouse and that females (males) are three years younger (older) than members.

13. Administrative Expenses

The normal cost is increased by an amount equal to the anticipated administrative expenses for the upcoming fiscal year. The amount for fiscal year 2009 is $500,000 and is anticipated to increase at 4.5% per year.

EXHIBIT 7 – GLOSSARY OF TERMS:

This glossary summarizes the technical terms contained in this report.

1. Actuarial Accrued Liability

That portion of the Actuarial Present Value of plan benefits that is not provided for by future employer Normal Costs or employee contributions.

2. Actuarial Assumptions

Assumptions as to the occurrence of future events affecting the Retirement System such as:

- Rates of investment returns
- Increases in a member's salary
- Inflation
- The probability of mortality, turnover, disablement
- Retirement at each age and other relevant items

3. Actuarial Cost Method

A procedure for allocating the Actuarial Present Value of pension plan benefits between Normal Cost and Actuarial Accrued Liability.

4. Actuarial Present Value

The single sum amount required at the valuation date that is required to provide for anticipated future events based upon the terms of the plan and the Actuarial Assumptions.

5. Forecast

A projection of future benefit payments or contribution requirements based upon the terms of the plan, the current asset amounts, the Actuarial Assumptions, and additional assumptions as to the replacement of terminating employees with new employees.

6. Normal Cost

That portion of the Actuarial Present Value of future benefits that is assigned to the current year.

7. Unfunded Actuarial Accrued Liability

That portion of the Actuarial Accrued Liability that is not provided for by current actuarial value of assets.

8. Valuation Method

The method used to divide the cost of future benefits among the Actuarial Accrued Liability, the current year's Normal Costs, and future years' Normal Costs. The resulting current funding requirement is then determined as the current year's Normal Cost plus the payment necessary to amortize the Unfunded Actuarial Liability.

9. Vested Liability

That portion of the Actuarial Present Value of Accrued Benefits that a member would be entitled to if the member terminated employment with the employer as of the valuation date.

CERTIFICATION:

This report fairly represents the actuarial position of the City of Waltham Retirement System contributing as of January 1, 2008, in accordance with generally accepted actuarial principles applied consistently with the preceding valuation. In our opinion, the actuarial assumptions used to compute actuarial accrued liability and normal cost are reasonably related to plan experience and to reasonable expectations, and represents our best estimate of anticipated plan experience.

Buck Consultants, LLC

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Daniel W. Sherman, ASA, MAAA
Enrolled Actuary No. 05-4086

November 2008